

Appl. No.: 10/620,186
Supplemental Amdt. dated: July 21, 2006

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Remarks/Arguments

Claims 1-22 are pending. Claims 1, 15 and 20 have been amended and new claims 21 and 22 have been added. Basis for the amendments to claims 1 and 15 can be found in various parts of the specification, including at page 11, lines 1-5 and page 14, lines 7-17. Claim 20 has been amended to change propylenes to propylene. New claims 21 and 22 contain language that is similar to that of claims 19 and 20.

Claims 1-18 are rejected as being obvious in view of U.S. Patent No. 6,271,430 to Schwab et al. The attached Declaration of Mr. Robert J. Gartside Under 37 CFR 1.132 highlights several of the distinctions between the claims of the present application and U.S. Patent No. 6,271,430. In the '430 Patent, the second metathesis stage involves a reaction of C5+ hydrocarbons with ethylene. In contrast, the processes claimed in the present application recite a second metathesis stage involving a reaction between a C4+ stream and ethylene (independent claim 1) or a C4 stream and ethylene (independent claim 15). The Examples in the present application provide for an increase in propylene production of 12 – 24 % as compared to a conventional process for producing propylene.

The '430 Patent gives the following examples of streams to be used in the process disclosed therein: pure 1-butene and 2-butene, or a C4 stream from a cracker, in particular a steam cracker or a refining process. One type of stream mentioned is raffinate II. The '430 patent describes raffinate II as a fraction comprising 1-butene, cis/trans-2-butene, isobutene, n-butane and isobutane. Col 2, line 65 to col. 3, line 2 states, "[f]or example, raffinate II can comprise . . . at most 1-2% by weight of isobutene." All of the examples in the '430 Patent use raffinate II.

The '430 Patent states at col. 3, lines 10-12, "[a]ccording to an embodiment of the invention, the starting material used can be any stream in which 1-butene and 2-butene are present." If this sentence is interpreted to indicate that the process of the '430 Patent can be used with streams containing substantial quantities of isobutylene, it appears to be inconsistent with the prior statement in the '430 Patent about including at

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most 1-2% by weight of isobutene. In the petrochemical industry, "raffinate II" (also written as "raffinate 2") refers to a C4 stream from which isobutylene has been removed. Thus, the '430 patent does not appear to teach autometathesis using a C4 stream from which isobutylene has not been removed.

In view of the above, it is believed that this application is in condition for allowance, and such a Notice is respectfully solicited.

Respectfully submitted,

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